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Appl. No.: 09/531,534

Amendment dated January 26, 2006

Amendment responsive to Office Action mailed November 2, 2005

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of ~~receiving information from at least one content provider and transmitting the information to~~ managing real-time data for a at least one user terminal, comprising:

a content server receiving information from the at least one content provider;
sending displaying at least one portion of the information to the on at least one user terminal for display on the user terminal;

the content server monitoring the information from the at least one content provider to determine if any of the at least one portion of the information being displayed on any at least one user terminal has changed, said monitoring including storing the at least one portion in a data store of the content server;

updating in the data store the information from the at least one content provider that has changed; and

transmitting to the user terminal only the information from the at least one content provider that has changed, changed to the at least one user terminal, the changed information being real-time information, each at least one user terminal capable of displaying the changed information which is different from said information from different said at least one content providers simultaneously;

~~wherein transmissions to the user terminal are optimized.~~

2. (Original) The method recited in claim 1, wherein the information comprises a plurality of real-time data values from the content provider.

3. (Original) The method recited in claim 2, wherein the updating of information from the content provider further comprises:

accessing a hash table containing a plurality of prior real-time data values using a plurality of keys associated with the plurality of real-time data values;

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determining whether the plurality of real-time data values received from content provider has changed from the prior plurality of real-time data values contained in the hash table; and

updating the prior plurality real-time data values contained in the hash table with the plurality of real-time values received from the content provider when the plurality of real-time data values received from content provider has changed from the plurality of prior real-time data values contained in the hash table.

4. (Currently Amended) The method recited in claim 3, wherein the transmitting of the plurality of real-time data values that have been updated in the hash table to the user terminal further comprises:

activating a data thread when a real-time data value of the plurality of prior real-time data values is updated in the hash table;

determining the position on a screen in the user terminal corresponding to the real-time data value;

transmitting the real-time data value to the user terminal for display; ~~and~~
~~displaying the real-time data value on the screen in of~~ the user terminal in the position indicated.

5. (Currently Amended) The method recited in claim 4, wherein the activating step comprises activating the data thread ~~is activated using~~ remote method invocation.

6. (Original) The method recited in claim 3, further comprising:
requesting a connection by the user terminal;
spawning a data server thread;
retrieving a user defined portfolio by the data thread containing a plurality of keys;
generating activated HTML page containing an embedded applet and downloading to the user terminal; and

monitoring the plurality of keys contained in the user defined portfolio and
identifying currently active keys of said of the plurality of keys.

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7. (Original) The method recited in claim 6, comprising:
reading the currently active keys;
determining if the currently active keys have changed;
updating the hash table with the real-time data values for currently active keys; and
downloading real-time values for the currently active keys that have changed from the
hash table to the user terminal.

8. (Original) The method recited in claim 7, comprising:
determining whether a shutdown request was made; and
disconnecting all connections to the user terminal when the shutdown request was made.

9. (Original) The method recited in claim 8, comprising:
retrieving the plurality of real-time data values on a periodic basis.

10. (Previously Presented) The method recited in claim 9, comprising:
notifying a data server thread when a real-time data value of the plurality of data that
values have changed.

11. (Previously Presented) The method recited in claim 6, comprising:
activating an embedded applet received from the data server thread in the user terminal;
determining whether a page changed is required;
informing the data server thread of a plurality of new active keys;
receiving the plurality of real-time data values from the data server thread; and
updating the screen on the user terminal associated with each time data value of the
plurality of real-time data values.

12. (Currently Amended) A computer program executable by computer and
embodied on a computer readable medium for receiving a plurality of real-time data values from

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at least one content provider and transmitting the real-time data values to at least one user terminal, comprising:

a user terminal code segment to receive real-time data values; and

a real-time data server code segment to receive real-time data values from at least one content provider, determine if any of the real-time data values have changed from a prior real-time data values and transmit only the changed real-time data values to at least one user terminal when any of the real-time data values have changed from the prior real-time data values;

~~wherein transmissions to the user terminal are optimized.~~

13. (Original) The computer program recited in claim 12, wherein the real-time data server code segment further comprises:

a hash table storing the prior real-time data values and being updated when the real-time data values from the content provider have changed from the prior real-time data values.

14. (Previously Presented) The computer program recited in claim 13, wherein the real-time data server code segment further comprises:

a web engine server module code segment to access a database having a portfolio generated by a user and generate an HTML page and applet, wherein upon receipt of a connection request from the user terminal the web engine server module code segment downloads the HTML page and applet to the user terminal code segment.

15. (Previously Presented) The computer program recited in claim 13, wherein the real-time data server code segment further comprises:

a source filter server module code segment to receive real-time data values from a content provider and determine if the real-time data values have changed from prior real-time data values stored, and activate a data thread code segment when the real-time data values have changed from prior real-time data values.

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16. (Previously Presented) The computer program recited in claim 15, wherein the real-time data server code segment further comprises:

a realtime data server module code segment to communicate between the user terminal code segment and the source filter server module code segment through the data server thread code segment.

17. (Previously Presented) The computer program recited in claim 16, further comprising:

a source filter server module code segment to receive the real-time data values from the content provider; and update the hash table.

18. (Previously Presented) The computer program recited in claim 13, wherein the user terminal further comprises:

a HTML page and JavaScript module code segment to display a screen on the user terminal code segment; and

an embedded applet code segment to update the screen for the user terminal code segment when the real-time data values are received from the real-time data server code segment.

19. (Previously Presented) The computer program recited in claim 13, further comprising:

a web server module code segment to communicate to the user terminal code segment and retrieve a portfolio specified by the user terminal code segment from a database; and

a pagination engine module code segment, in communication with the web server module code segment, to create the HTML page and applet code segment based on the portfolio selected and the size of the screen on a user terminal.

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20. (Currently Amended) A system to receive a plurality of real-time data values from at least one content provider and transmitting the real-time data values to at least one user terminal, comprising:

at least one user terminal to receive real-time data values; and

a real-time data server to receive real-time data values from at least one content provider, determine if any of the real-time data values have changed from prior real-time data values and transmit only the changed real-time data values to the at least one user terminal when any of the real-time data values have changed from the prior real-time data values, each at least one user terminal capable of displaying different said real-time data values from different said at least one content providers simultaneously,

wherein transmissions to the user terminal are optimized.

21. (Original) The system recited in claim 20, wherein the real-time data server further comprises:

a hash table storing the prior real-time data values and being updated when the real-time data values from the content provider have changed from the prior real-time data values.

22. (Original) The system recited in claim 21, wherein the real-time data server further comprises:

a web engine server module to access a database having a portfolio generated by a user and generate an HTML page and applet, wherein upon receipt of a connection request from the user terminal the web engine server module downloads the HTML page and applet to the user terminal.

23. (Original) The system recited in claim 21, wherein the real-time data server further comprises:

a source filter server module to receive real-time data values from the content provider and determine if the real-time data values have changed from prior real-time data values stored

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and table, and activate a data thread when the real-time data values have changed from prior real-time data values.

24. (Original) The system recited in claim 23, wherein the real-time data server further comprises:

a realtime data server module to communicate between the user terminal and the source filter server module through the data server thread.

25. (Previously Presented) The system recited in claim 24, further comprising:
a source filter server module to receive the real-time data values from the content provider; and update hash table.

26. (Original) The system recited in claim 21, wherein the user terminal further comprises:

a HTML page Java scripts to display a screen on the user terminal and; and
an embedded applet to update the screen on the terminal when the time data values are received from the real-time data server.

27. (Original) The computer program recited in claim 22, wherein the web engine server module further comprises:

a web server module to communicate to the user terminal and retrieve a portfolio specified by the user terminal from a database; and

a pagination engine module, in communication with the web server module, to create HTML page and applet based on the portfolio selected and the size of the screen on the user terminal.

28. (Currently Amended) A network node comprising:
a transmitting interface for transmitting information from a content provider to a user terminal, said information containing at least a portion to be displayed on the user terminal;

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monitoring interface for monitoring the information from the content provider to determine if any of the portion of the information being displayed on the user terminal has changed; and

means for updating the information from the content provider that has changed,

wherein the transmitting interface transmits only the information from the content provider that has changed to the user terminal.

29. (Previously Presented) The node according to claim 28, wherein the information comprises a plurality of real-time data values from the content provider.

30. (Previously Presented) The node according to claim 28, wherein the updating of information from the content provider further comprises:

accessing a hash table containing a plurality of prior real-time data values using a plurality of keys associated with the plurality of real-time data values;

determining whether the plurality of real-time data values received from content provider has changed from the prior plurality of real-time data values contained in the hash table; and

updating the prior plurality real-time data values contained in the hash table with the plurality of real-time values received from the content provider when the plurality of real-time data values received from content provider has changed from the plurality of prior real-time data values contained in the hash table.

31. (Previously Presented) The node according to claim 30, wherein the network node retrieves a user defined portfolio by a data thread containing a plurality of keys, the data thread being received from the user terminal, generates activated HTML page containing an embedded applet and downloads the activated HTML page to the user terminal.

32. (Previously Presented) The node according to claim 30, wherein the network node monitors the plurality of keys contained in the user defined portfolio and identifies currently active keys of said of the plurality of keys.

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33. (Previously Presented) The node according to claim 32, wherein the network node reads the currently active keys, determines if the currently active keys have changed, updates the hash table with the real-time data values for currently active keys, and downloads the real-time values for the currently active keys that have changed from the hash table to the user terminal.

34. (Previously Presented) The node according to the claim 33, wherein the network node determines whether a shutdown request was made and disconnects all connections to the user terminal when the shutdown request was made.

35. (Previously Presented) A real-time server computer comprising memory storing computer executable code modules that, when executed by the real-time server computer, together provide a real-time data delivery service, each said code comprising computer executable instructions stored in the memory, said code modules comprising:

- a source filter server module that receives data from a real-time content provider, and stores the received data in a keyed hash table;

- a real-time data server module comprising submodules including:

- a client connection submodule that establishes a data server thread connection with a remote mobile terminal;

- wherein when any data server thread connection receives a key request from the remote mobile terminal, the real-time data server module performs steps including a) querying the keyed hash table for corresponding data; and b) when the queried data differs from data previously sent to the remote mobile terminal, the queried data is sent to the remote mobile terminal, otherwise the queried data is not sent to the remote mobile terminal; and

- a web engine server module that communicates formatted data to the remote mobile terminal based on the queried data.